

# RCB 200

## TRANSIENT IMMUNITY TEST GENERATOR AS PER FORD ES-XW7T-1A278-AC



### FOR TESTS ACCORDING TO ...

- › Ford ES-XW7T-1A278-AC
- › ISO 7637-2:2011

### RCB 200 - GENERATION OF RELAY SWITCHING TRANSIENTS

This RCB 200 relay switch box has been designed by EM TEST to offer a high-quality solution for customers testing according to ES-XW7T-1A278-AC Ford specification.

Three function keys permit to operate the unit, to select the test pulses and test modes.

- TEST allows to start and to stop the test
  - PULSE allows to select the pulse
  - MODE allows to select the mode for Pulse A1, A2, B1, B2 and C
- LEDs indicated the selected pulse and mode.

### HIGHLIGHTS

- › As per Ford ES-XW7T-1A278-AC, Annex G, Figs. G-1/G-2
- › Pulses CI 220: Pulses A1, A2, B1, B2 and C
- › Pulse CI 260: Pulse F
- › Strictly using components as per Ford requirements

### APPLICATION AREAS



AUTOMOTIVE

**TECHNICAL DETAILS**

**BENEFITS**

**MICRO-PROCESSOR CONTROLLED RCB 200 ENSURES EASY OPERATION**

With its 6 different pulses and two different modes to sequence these test pulses the RCB 200 is easily operated by only three function keys. A micro-controller automatically sets the circuit required to generate the selected pulse in the predefined mode (fixed mode with specified repetition and duty cycle (pulses A1, A2, B1 and B2) or random (pulse C)).

The RCB 200 can also be used for tests as per CI 260F.

Test modes 2 and 3 are based on a pseudo-random timing of the application of pulses. This is done automatically by the built-in microprocessor. All tests can be performed in sequence or endless.

The Potter & Brumfield relay must be replaced because of the life and wear after 100 hours of tests. An integrated counter actively monitors the operating time of the relay. The EOL LED (end of life) indicates the current EOL status.

**DETAILS FOR RELAY CIRCUIT**

**RCB 200 - STRICTLY DESIGNED AS PER ES-XW7T-1A278-AC**

The circuitry of the RCB 200 is strictly following the requirements as per Ford given in Annex G, Figs. G-1 and G-2 for transient pulses A1, A2, B1, B2 and C, using the components specified by Ford.

The two test modes are achieved based on the relay circuit details given in Figs. G-3 and G-4 of Annex G.

Figure G-1: Transient Generator Circuit for Pulses A1, A2 and C

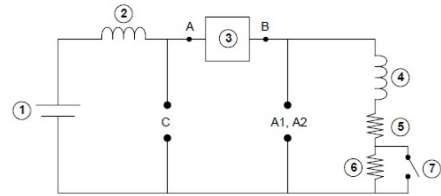
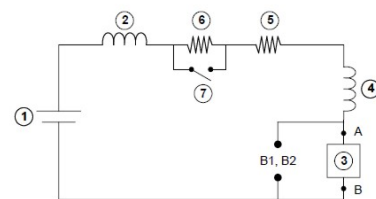


Figure G-2: Transient Generator Circuit for Pulses B1, B2



**Key (Figures G-1, G-2)**

1 Vehicle Battery (12 VDC)	5 Resistor: 6 ohms +/- 5 %
2 5 uH Inductor (50 amp)* (Osborn Transformer Part Number 8745)	6 Resistor: 100 ohms +/- 5%
3 Relay Sub-circuit (see Figure G3 for detail)	7 Switch: SPST (1 amp). Switch closed for Pulses A1 and C.
4 Inductor: 100 mH @ 1amp* (Osborn Transformer Part Number 32416)	

\* Critical Component, no substitutions permitted without written authorization from the FMC EMC department.

## TECHNICAL DETAILS

## TRANSIENT PULSE GENERATOR AS PER FORD ES-XW7T-1A278-AC

### TECHNICAL DATA

RCB 200	Circuitry as per Annex G, Figs. G-1 to G-4 with the following components:
Inductor 2	5 $\mu$ H inductor (50 amp) (Osborne transformer part no. 8745)
Relay 3	12 volt AC relay Potter & Brumfield KUP-14A15-12
Inductor 4	100 mH inductor @ 1 amp (Osborne transformer part no. 32416)
Resistor 5	6 ohms +/-5%
Resistor 6	100 ohms +/-5%
Switch 7	SPST (1 amp). Switch closed for Pulses A1 and C

### OPERATION

TEST	Start/Stop of the test
Pulse	To select the pulses of the preset test
Mode	To select the mode of generating the pulses

### INPUTS/OUTPUTS

Inputs	4mm safety lab connectors for DC supply
Outputs	4mm safety lab connectors for CI 220 and CI 260 testing
LEDs	Indication of the - TEST ON status - Pulse - Mode

## TRANSIENT PULSE GENERATOR AS PER FORD ES-XW7T-1A278-AC

### TEST ROUTINES AS PER ES-XW7T-1A278-AC

As per CI 220	Pulses A1 and A2, Mode 1 Pulses B1 and B2, Mode 1 Pulse, Mode 2
As per CI 260	Pulse F

### GENERAL DATA

Dimensions, Weight	250mm x 160mm x 130mm; approx 3.75kg
Fuse	20A for DUT supply current
Protection	Electronically protected against overvoltage and reversed polarity

### OPTIONS

R-Rel	Set of replacement relays
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# COMPETENCE WHEREVER YOU ARE



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Information about scope of delivery, visual design and technical data correspond with the state of development at time of release. Subject to change without further notice.